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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/848,414	05/04/2001	Chun-Pu Hsu	LIE 113	7713

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EXAMINER
NGUYEN, TRAN N

ART UNIT	PAPER NUMBER
2834	

DATE MAILED: 12/19/2001

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/848,414	Applicant(s) Hsu
	Examiner Nguyen, Tran N	Art Unit 2834

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☐ Responsive to communication(s) filed on _____.

2a) ☐ This action is **FINAL.** 2b) ☒ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) 1-7 is/are pending in the application.

4a) Of the above, claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) 1-7 is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved.

12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

a) ☐ All b) ☐ Some* c) ☐ None of:

1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

*See the attached detailed Office action for a list of the certified copies not received.

14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

15) ☒ Notice of References Cited (PTO-892)
16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
17) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____
18) ☐ Interview Summary (PTO-413) Paper No(s). _____
19) ☐ Notice of Informal Patent Application (PTO-152)
20) ☐ Other:

DETAILED ACTION

Specification

1. Because of the lengthy specification in this application, it has not been checked to the extent necessary to determine the presence of all possible minor and informal errors. Applicant's cooperation is therefore requested in promptly correcting any errors of which the applicant may become aware of in the specification and/or the drawings.

Claim Rejections - 35 USC § 112

2. **Claims 1-7** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1, "a thickness of the flat wire being determined by a depth of the longitudinal vertical post of the T shape wire...so as to acquire a thickness dividing number" is confusing and indefinite because this phrase is more likely recite how to "acquire a thickness dividing number" (to which the thickness of the flat wire is compared). Thus, instead of phrasing "a thickness of the flat wire being determine" in this portion of the claimed language, the phase should be change to "a thickness dividing number being determined by a depth of the longitudinal vertical post of the T shape wire...so as to acquire a thickness dividing number";

in claim 1, "the flat wire being used in a standing form and being used with a "winding machine" for winding with a layer or multilayer of windings" is unclear because it seems to recite a method of using the wire or a method of forming the winding the flat wire with a "winding machine". Is the flat wire disposed in at least one layer in a standing position around the T shaped post?

In claim 2, "single outer stator tooth" is indefinite because it is unclear the term "outer" indicating the location of the teeth respect to what reference. It should be changed to "removable radially-outwardly extended stator tooth".

In claim 3, "single inner stator tooth" is indefinite. It should be change to "removable radially-inwardly extended stator tooth" .

In claims 4-5, respectively "outer stator tooth" and "inner stator tooth" are indefinite. They should be changed to "radially-outwardlyextended stator tooth" and "radially-inwardly extended stator tooth".

Claim Rejections - 35 USC 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a

whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. **Claims 1, 3 and 5-7** are rejected under 35 U.S.C. 103(a) as being unpatentable over Baronosky et al (US 5866965) in view of Applicant's Admitted Prior-Art figures 8A-8H (hereafter APA figs 8A-8H) and Boyd, Jr. (US 4685201).

Baronosky discloses a stator core of a motor having integral closed and inseparable inner stator teeth (13), wherein each tooth having a flat coil (15) being a flat wire wound around (fig 1). Baronosky substantially discloses all aspects of the invention, except the limitations of the following:

(a) the stator teeth are formed by single removable teeth with a T shape insulator and a longitudinal vertical post;

(b) one end of the flat wire is provided with an insulator piece;

(c) the thickness of the flat coil is determined in relation with the thickness dividing number which is a division of the vertical post's depth by the number of winds of a rated rotary speed of the machine;

(d) the flat coil is an exciting coil of an induced coil in a generator.

Regarding (a) features, APA figs 8A-8H discloses a stator having removable teeth (41, 412, 413), each has a T shape insulator and a longitudinal vertical post (21, 212). The removable

teeth facilitate the winding assembling process of the machine while the insulator and the longitudinal vertical post are for the wire insulating support.

Thus, it would have been obvious to one skilled in the art at the time the invention was made to modify the Baronosky's motor by configuring each of the stator teeth as a single removable tooth has a T shape insulator and a longitudinal vertical post, as taught byAPA figs 8A-8H. Doing so would respectively facilitate the winding assembling process of the machine and provide the wire insulating support for the winding.

Regarding (b) features, Boyd, Jr., however, discloses a magnetic core winding assembly having wire end being provided with a piece of insulator tube (19) for insulating and protecting the wire lead from potential damage.

Thus, it would have been obvious to one skilled in the art at the time the invention was made to modify the Baronosky's motor by providing an insulating piece at a distal end of the wire, as taught by Boyd, Jr. Doing so would provide insulating and protecting for the wire lead from potential damage.

Regarding (c) features, Baronosky does disclose the use of flat wire in the stator winding, except for the particular thickness of the flat wire as claimed in the present invention. However, those skilled in the art would realize that the vertical post's depth or the number of winds of a rated rotary speed is a matter of obvious engineering design choice(s) based upon a

particular industrial application of the machine, i.e., the required workable range of the motor's or generator's power output. This is one of the factors to determine the size, i.e., number of turns and/or the size of the wire of the machine's field winding coils. Therefore, the claimed thickness dividing number for determining the thickness of the flat wire is a matter of obvious engineering design choices.

Thus, it would have been obvious to one skilled in the art at the time the invention was made to modify the Baronosky's motor by selecting the flat wire having a thickness that is less than the thickness dividing number which is a division of the vertical post's depth by the number of winds of a rated rotary speed of the machine, as in the claimed invention. Doing so would only require ordinary skills of a worker in the art because it has been held that where the general conditions of a claim are disclosed in the prior art, in this case the use of flat wire for the stator winding, discovering the optimum or workable ranges, in this case the thickness of the flat wire, involves only routine skill in the art. ***In re Aller, 105 USPQ 233.***

Regarding (d) features, it would have been obvious to one skilled in the art at the time the invention was made to use the disclosed flat wire in a generator because electromagnetic winding is a well-known essential element of a generator in the dynamoelectric machinery art. Furthermore, the Examiner takes Official Notice that the use of a flat wire in a dynamoelectric machine, i.e., motor and generator, is well-known in the art (see cited refs).

7. **Claim 2** is rejected under 35 U.S.C. 103(a) as being unpatentable over Baronosky, APA figs 8A-8H and Boyd, Jr., as applied in the rejection against the base claim, and further in view of Forbes et al (US 4835839).

The combination of Baronosky, APA figs 8A-8H and Boyd, Jr. discloses the claimed invention, except for the added limitations of the single outer stator tooth portion, i.e., a removable tooth.

Forbes, however, teaches a stator with removable teeth (figs 1-5) for facilitates the winding assembling process for providing the winding in the electromagnetic core.

Thus, it would have been obvious to one skilled in the art at the time the invention was made to modify the stator with a plurality of single removable tooth, as taught by Forbes. Doing so would facilitate the winding process of the machine. The Examiner takes Official Notice that a magnetic core with plurality of removable teeth is well known in the art.

3. **Claim 4** is rejected under 35 U.S.C. 103(a) as being unpatentable over Baronosky, APA figs 8A-8H and Boyd, Jr., as applied in the rejection against the base claim, and further in view of Sakamoto (US 5969455).

The combination of Baronosky, APA figs 8A-8H and Boyd, Jr. teaches the claimed invention, except for the added limitations of the integral closed and inseparable out stator tooth portion.

Sakamoto, however, teaches this feature (1b in figs 1-3). Magnetic core with integral inseparable tooth portion is known for strong structure integrity and simplified process during the forming of the magnetic core itself. The Examiner takes Official Notice that a magnetic core with plurality of integral and inseparable teeth is well known in the art.

Thus, it would have been obvious to one skilled in the art at the time the invention was made to modify the stator with a plurality of integral and inseparable teeth because it would ensure the strength and the structure integrity of the stator. Also, it is well known in the art.

Conclusion

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tran Nguyen whose telephone number is (703) 308-1639.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group Receptionist whose telephone number is (703) 308-0956. The fax phone number for this Group is (703) 305-3431 (32).

TRAN NGUYEN

PRIMARY PATENT EXAMINER

TC-2800